Claims:

1. An apparatus for reading information from a first light transmissive layer and a second layer of an object, said apparatus comprising, in combination:

first light source means (26) for directing light (35, 36) at a first angle of incidence at the object at a first time;

second light source means (24) for directing light (33) at a second angle of incidence, different to said first angle of incidence, at the object at a second time;

a light receiving device (40) for receiving a reflection (37) of said first light (35, 36) from said first layer at said first time, and a reflection (34) of said second light (33) from said second layer at said second time and to produce at least one image signal; and

a processing device (41) for processing said image signal to provide information regarding said layers.

2. An apparatus for reading information from a first light transmissive layer and a second layer of an object, said apparatus comprising, in combination:

first light source means (26) for directing light of a first predetermined wavelength or polarity (35, 36) at a first angle of incidence at the object;

second light source means (24) for directing light of a second predetermined wavelength or polarity (33) at a second angle of incidence, different to said first angle of incidence, at the object;

a light receiving device (40) for receiving a reflection (37) of said first light (35, 36) from said first layer, and a reflection (34) of said second light (33) from said second layer and to produce at least one image signal; and

a processing device (41) for processing said image signal to provide information regarding said layers.

3. An apparatus as claimed in claim 1 or 2, wherein the first layer comprises a plurality of microspheres (16) having similar optical properties to glass.

4. An apparatus as claimed in claim 1 or 2, wherein the first layer comprises a material having similar optical properties to polyester.

5. An apparatus as claimed in any of claims 1 to 4, further comprising a two-way mirror (23) for directing the first light (35, 36) to said object, and arranged so that the first light having been reflected by the first layer passes through the two-way mirror for detection by the light receiving device (40).

6. An apparatus as claimed in any one of the preceding claims wherein the processing device is a data processing unit such as a personal computer (41).

7. An apparatus as claimed in any one of the preceding claims, wherein the first and second light source means (26, 24) are switchable so as to operate alternately or simultaneously.

8. An apparatus as claimed in any one of the preceding claims, wherein each of the first and second light source means (26, 24) are individually intensity controlled.

9. An apparatus as claimed in any one of the preceding claims, wherein the first and second light source means (26, 24) produce light at different bandwidths, and/or different wavelengths.

10. An apparatus as claimed in claim 9 wherein said light is selected from the group consisting of ultra-violet light and infra-red light.

11. An apparatus as claimed in any one of the preceding claims, wherein the light receiving means (40) comprises a video image receiver, such as for example, a charged coupled device.

12. An apparatus as claimed in claim 3 or any one of claims 4 to 11 when dependent on claim 2, wherein the first layer is a sheet of plastics material (9) having said microspheres (16) applied thereto.

13. An apparatus as claimed in any one of the preceding claims, wherein said second layer is a document (10) located below the first layer, said document (10) comprising a source image (12).

14. An apparatus as claimed in claim 12, wherein said document (10) comprises a substrate (11) upon which said source image (12) is formed, said substrate and said source image having different light reflective properties.

15. An apparatus as claimed in claim 13 or 14, wherein said document (10) is selected from the group consisting of a passport, an identity card, a land title, and a share title.

16. An apparatus as claimed in any one of the preceding claims, wherein an angle of reflection of said first light relative to the position of the light receiving means (40) is less than 1°.

17. An apparatus as claimed in any one of the preceding claims, wherein an angle of reflection of said second light relative to the position of the light receiving means (40) is greater than 1°.

18. An apparatus as claimed in any one of the preceding claims, wherein said processing device (41) compares said image signal with at least one predetermined image to provide said information.

19. An apparatus as claimed in any one of the preceding claims, wherein said image signal represents a combination of said first light and said second light.

20. An apparatus as claimed in any one of claims 1 to 18, wherein said first light and said second light produce corresponding ones of said light from a predetermined one of said layer or said source image.

21. An apparatus as claimed in any one of the preceding claims, further comprising a third light source means (50) for directing (third) light (51) at a third angle of incidence, at least substantially normal to said first light, at said object, said third light being focused in a plane across a surface of said object.

22. An apparatus as claimed in any one of the preceding claims wherein said image signal comprises a first image signal derived from illumination of said first light source means (26), and a second image signal derived from said second light source means (24), and said processing comprises comparing the first image signal with the second image signal to determine a color difference response, said response being indicative of a patterned diffraction grating or a holographic embossment formed in on said object.

23. A system for reading information, said system comprising an apparatus according to any of claims 1 to 21 and an object including a first light transmissive layer and a second layer.

24. A method for examining an object having a source image (12) and overlying light transmissive layer, said method comprising the steps of:

directing light at a first time at a first angle of incidence at said layer to cause reflection of light from said layer;

directing light at a second time at a second angle of incidence at said source image (12) to cause reflection of light from said source image (12);

detecting said reflected light from said layer at said first time and at a first viewing location to provide a first detected image;

detecting said reflected light from said source image (12) at said second time and at a second viewing location to provide a second detected image; and

processing said first and/or second images to resolve information regarding said source image (12) and/or said layer.

25. A method for examining an object having a source image (12) and an overlying light transmissive layer, said method comprising the steps of:

directing light of a first predetermined wavelength or polarity at a first angle of incidence at said layer to cause reflection of light from said layer;

directing light of a second predetermined wavelength or polarity at a second angle of incidence at said source image (12) to cause reflection of light from said source image (12);

detecting said reflected light of said first predetermined wavelength or polarity from said layer and said reflected light of said second predetermined wavelength or polarity from said source image (12) to provide first and second detected images; and

processing said first and/or second images to resolve information regarding said source image (12) and/or said layer.